

## REMARKS

Pending claims 6, 8-10, 19, 21-23 and 49-54 have been rejected under 35 USC §103 over Agostino in view of Parikh. Pending claims 34-37 have been rejected under 35 USC §103 over Parikh in view of Agostino. Claims 6, 8-10, 19, 21-24, 34-37 and 49-54 remain pending.

Reconsideration of the rejection is respectfully requested, it is believed that the Fianl Office Action has failed to address limitations that are missing from the combinations of Agostino and Parikh.

The Applicant's disclosure relates to photodefinable layers, such as for example photoresist. More particularly it relates to photodefinable layers in which the photodefinable layer may be converted into an insulative layer. For example, as described within the specification one such type of photodefinable material is plasma polymerized methylsilane (PPMS). Upon exposure to electro-magnetic radiation, the exposed portions of the PPMS layer may be converted to an insulative layer (such as for example the photo-oxidized siloxane PPMSO).

### Formation An Insulative Material After the Original Exposure – Claims 6, 19, and 49

In response to the Applicant's Amendment and Arguments the Office Action states:

Agostino does not explicitly shows subsequent stop of converting the photo-definable layer which (1) remain after the positive mask scheme to the insulative layer through exposure to further electro-magnetic radiation. The secondary reference, Parikh, however, suggests that a photo-definable layer (CVD plasma polymerized methylsilane, PPMS) 418 being used a mask to form a feature (trench pattern) 424 capable of exposed to further electro-magnetic radiation (UV light) to convert into plasma polymerized methylsilane oxide (PPMSO) (col. 9, lines 33-50 and Fig. 4B). [Office Action, p. 12].

It is acknowledged that the Parikh suggests that a PPMS layer may be exposed to electro-magnetic radiation to convert it into a PPMSO layer. However, it is respectfully asserted that

neither Agostino or Parikh does not teach such subsequent formation of an insulative film after the original exposure of the masking steps. Rather, both Agostino and Parikh teach merely an original exposure related to the masking steps. Such teachings are different then the limitations claimed. For example, claim 6 includes the use of a second exposure after the completion of “all masking steps.” Thus it is noted that after the masking steps, “the non-exposed portions of the photo-definable layer which remain after the positive masking scheme” are then exposed to further radiation (different from the original masking steps) such that the originally non-exposed portions “are then subsequently converted to the insulative layer through exposure to further electro-magnetic radiation.” Thus, even if combined neither Agostino or Parikh teach further exposure after the masking steps. Rather as noted above, the exposures of both Agostino and Parikh are the original exposures that relate to the masking steps themselves.

There is no suggestion in Parikh to keep the non-exposed portion of PPMS of Parikh on the wafer. There is also no suggestion to provide a second subsequent exposure after the first masking exposure is performed to convert that originally non-exposed portion of PPMS of Parikh to an insulative layer.

Similarly, claim 19 includes the formation of a patterned layer and then “said non-exposed portions of said photo-definable layer are converted into additional insulative material after the exposure which is utilized to form said patterned insulative layer.”

Similarly, claim 49 includes using the photo-definable layer as part of forming a mask through the use of exposure to radiation and then “non-exposed portions of said photo-definable layer subsequently converted into additional insulative material after formation of the mask.”

As such it is respectfully asserted that independent claims 6, 19 and 49 and all claims that depend therefrom are patentably distinct from the either of the cited references singularly or in combination.

#### Independent Claim 34

It is respectfully noted that in the Final Office Action the Response to the Applicants Argument did not the arguments relating to claim 34 which are separate and distinct from the arguments to which the Final Office Action referred.

More particularly, in claim 34 an interconnect is formed between a first conductive layer and a second conductive layer. Moreover, the photo-definable layer that may be converted to an insulative material is used in such a way that the non-exposed portions of the photo-definable mask are used for at least two purposes: “using non-exposed portions of said photo-definable layer as a mask to form a pattern within said insulative layer” and “by using non-exposed portions of said photo-definable layer as a sacrificial mask in etching said first conductive layer.” It is respectfully noted that in the cited references there is no suggestion to use the same mask layer for etching both an insulative layer and the conductive layer. The Office Action cites Parikh, however, it is noted that the film stacks of Parikh are used to connect a conductive substrate to the second conductive layer 242. There is no teaching or suggestion to etch either of these materials with a masking step (the substrate is not etched and the second conductive layer is an inlaid conductive layer).

As such it is respectfully asserted that independent claim 34 and all claims that depend therefrom are patentably distinct from the either of the cited references singularly or in combination.


### CONCLUSION

In view of the foregoing, it is submitted that the claims are in condition for allowance. Accordingly, favorable reconsideration and Notice of Allowance are courteously solicited.

The examiner is invited to contact the undersigned at the phone number indicated below with any questions or comments, or to otherwise facilitate expeditious and compact prosecution of the application.

Should any fees under 37 CFR 1.16-1.21 be required for any reason relating to the enclosed materials, including any additional fee for an extension of time, the Commissioner is authorized to deduct such fees from O'Keefe, Egan, Peterman & Enders Deposit Account No. 10-1205/MTIP:003D1.

Respectfully submitted,

  
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